

A black and white graphic featuring a map outline of the Western United States. Superimposed on the map is a detailed drawing of a barley plant, showing its stem, leaves, and a cluster of ears. The year '2001' is printed in large, bold, sans-serif font over the western coast area.

2001

**THE WESTERN REGIONAL
SPRING BARLEY
AND
WESTERN DRYLAND SPRING
BARLEY NURSERIES**

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHERN PLAINS AND PACIFIC WEST REGIONS
in cooperation with
State Agricultural Experiment Stations



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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

In cooperation with
State Agricultural Experiment Stations

WESTERN REGIONAL SPRING BARLEY NURSERY

and the

WESTERN REGIONAL DRYLAND SPRING BARLEY NURSERY

2001

Compiled by C. A. Erickson and D. E. Burrup

This report is compiled in electronic format intended for transmittal to the nursery cooperators. The files and their contents are as follows:

01WRBNREPORT.doc: WORD document explaining the contents of the report with the following sections:

- Cover Page and Contents Page
- Location of Experiments and Personnel
- Western Regional Spring Barley Nursery Narrative
 - Nursery contents and locations
 - General Information
 - Data Analysis
 - Data Highlights
 - Data Tables
- Western Regional Dryland Spring Barley Nursery Narrative
 - Nursery contents and locations
 - General Information
 - Data Analysis
 - Data Highlights
 - Data Tables

01WRSBN-English.xls, 01WRSBN-Metric.xls: Excel files containing data for the Western Regional Spring Barley Nursery in both English and metric format.

01WRDSN-English.xls, 01WRDSN-Metric.xls: Excel files containing data for the Western Regional Dryland Spring Barley Nursery in both English and metric format.

This is a joint progress report of cooperative investigations underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the U.S. Department of Agriculture. This report contains preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. This report is primarily a tool for use by cooperators, their official staffs and those persons having direct and special interest in the development of agricultural research programs.

This report includes data furnished by the State Agricultural Experiment Stations as well as by the Agricultural Research Service and was compiled in the Northern Plains Area and the Pacific West Area, Agricultural Research Service, U.S. Department of Agriculture. The report is not intended for publication and should not be referred to in literature citations nor quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

Aberdeen, Idaho, 2002

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LOCATION OF EXPERIMENTS AND PERSONNEL

Malting Quality (separate report)

Madison WI A. D. Budde

California

Tulelake L. Jackson

Idaho

Aberdeen	C. A. Erickson, D. E. Burrup
Bonners Ferry	K. Dempster
Idaho Falls	C. Sellmer
Moscow	K. Dempster
Paul	C. Sellmer
Soda Springs	L. Robertson
Tammany	W. L. McProud
Tetonia	C. A. Erickson, D. E. Burrup, J. C. Whitmore

Montana

Bozeman	T. Blake, P. Hensleigh
Fairfield	C. Sellmer
Manhattan	D. R. Clarke

North Dakota

Fargo	J. D. Franckowiak, R. D. Horsley
Hettinger	E. Ericksmoen
Langdon	J. D. Franckowiak, R. D. Horsley
Minot	J. D. Franckowiak, R. D. Horsley
Williston	N. R. Riveland

Oregon

Klamath Falls D. Clark

Saskatchewan

Saskatoon	B. G. Rossnagel, B. Harvey
Swift Current	J. C. McLeod

Utah

Blue Creek	D. Roche
Logan	D. Roche

Washington

Pullman S. E. Ullrich

Wyoming

Powell L. Bjornestad

WESTERN REGIONAL SPRING BARLEY NURSERY, 2001

This nursery is intended to be grown under irrigation, or in areas of high rainfall. It contains both 2- and 6-rowed feed and malting barley.

Locations in the 2001 nursery that were harvested and summarized for yield from 13 locations are:

Aberdeen, ID	Fairfield, MT	Logan, UT
Bonners Ferry, ID	Williston, ND	Pullman, WA
Idaho Falls, ID	Fargo, ND	Powell, WY
Moscow, ID	Minot, ND	
Manhattan, MT	Klamath Falls, OR	

General Information

The entry list for the 2001 Western Regional Spring Barley Nursery is shown in Table 1. In 2001, commercial cultivars were again entered into the nursery, including those from: Busch Agricultural Resources (6 lines); Plant Breeders 1 (3 lines); and Western Plant Breeders (2 lines).

There were 39 entries in this nursery in 2001. Entries in the 2000 test that were dropped in 2001 were: WA9504-94, Tango, UT 5754, all tested 3 years; BA6B94-8253, MT910189, MTLB-05, Valier (MTLB-30), WA11825-95, WPD-BZ594-35, all tested 2 Years); 2ND17274, 93Ab859, BA2B96-5038, UT005742, WA11801-95, WA11832-95, and WPB-DA587-124, all tested 1 year. New entries in the test were: BZ594-20, BZ596-117, 92Ab5180, UT95B1216-4087, UT97B1480-1632, WA8682-96, WA8709-96, WA10138-96, WA10147-96, 6B95-2482, 6B95-2089, 2B96-5057, 2B97-4077, 2B97-4299, CDC Select, TR 167, MT960099, MT960228, MT970116, 95SR149C, and 95SR316A.

Data Analysis

Computer software, in Lotus and Excel format, was used to obtain the cultivar means and period of years summary for all characteristics. With this software, we were also able to calculate the coefficient of variation (C.V.) and the Least Significant Difference (LSD) at the .05 level for grain yield. These two statistics are included to provide some indication of the variability in the individual test locations and an indication of cultivar rank at each location and the overall average.

Data Highlights

Seasonal measurements for the check cultivars Baronesse, Morex, Stander, and Steptoe (Table 2; *it should be noted that his table's relationship to some previous years has been altered due to adding the check varieties Baronesse and Stander in the year 2000*), for 1999 through 2001, show that the check mean yield value for the 2001 season was lower than the previous two years. Test weight was lower than the mean, plump values were slightly higher than the mean, heading date was 1.6 days earlier than the mean, and plant height was 4.8 cm lower than the mean.

In 2001 the highest yielding line over locations was UT95B1216-4087, a six-rowed feed barley, at 6.28 Mg ha^{-1} (Table 3). The six highest yielding lines were feed types, and 18 of the top 20 lines were feed types. BARI 2B97-4299 was the highest yielding malting barley, ranked seventh at 5.79 Mg ha^{-1} .

Tables 4 through 10 present the 2001 data for individual locations for grain yield, test weight, height, heading date, plumps, thins, and lodging, respectively.

Table 1: 2001 Western Regional Spring Barley Nursery, Planting List

Seed Source	Entry No.	Entry	Parentage	Type	Grade
	1	Steptoe		6 row	feed
	2	Baronesse		2 row	feed
	3	Morex		6 row	malting
	4	Stander		6 row	malting
	5	Harrington		2 row	malting
PB1	6	PB1-95-2R-517	PB1-88-2R-801/VD403582	2 row	feed
PB1	7	PB1-95-2R-A629	PB1-88-2R-801/VD403582	2 row	feed
PB1	8	PB1-97-2R-7090		2 row	feed
WPB	9	* BZ594-20	Stark/Baronesse	2 row	feed
WPB	10	* BZ596-117		2 row	feed
OSU	11	BCD 47 (OR2967102)	Harr/Orca//D172(Shyri/Galena)	2 row	malting
USDA-ARS	12	93Ab688	M44/80Ab4952//79Ab10719	6 row	feed
USDA-ARS	13	* 92Ab5180	83Ab5432/SR40	6 row	malting
USU	14	UT003757	UT85B482-1999/UT84B427-2507	6 row	feed
USU	15	UT004467	UT87B603-1266/Short#2	6 row	feed
USU	16	* UT95B1216-4087	UT84B427-250/OR3	6 row	feed
USU	17	* UT97B1480-1632	UT89B747-1263/UT90B774-2467	6 row	feed
WSU	18	* WA8682-96	A308/Baronesse	2 row	malting
WSU	19	* WA8709-96	WA7679-91/Baronesse	2 row	feed
WSU	20	* WA10147-96	WA7758-89/Baronesse	2 row	feed
WSU	21	* WA10138-96	WA7758-89/Baronesse	2 row	malting
BARI	22	Legacy (6B93-2978)	6B86-3517/Excel	6 row	malting
BARI	23	* 6B95-2482	6B89-2126/ND10981	6 row	malting
BARI	24	* 6B95-2089	6B84-2912/B1601/6B88-3213	6 row	malting
BARI	25	* 2B96-5057	B1215/B88-5336	2 row	malting
BARI	26	* 2B97-4077	B1215/2B91-4947	2 row	malting
BARI	27	* 2B97-4299	2B91-4947/2B91-4450	2 row	malting
CDC	28	CDC Copeland (TR150)	WM861-5/TR118	2 row	malting
CDC	29	* CDC Select		2 row	malting
CDC	30	* TR 167		2 row	malting
CDC	31	CDC Bold		2 row	feed
CDC	32	CDC Helgason (TR346)		2 row	feed
MSU	33	* MT960099	Manley/Baronesse	2 row	feed/malting
MSU	34	* MT960228	Stark/ Baronesse	2 row	feed
MSU	35	* MT970116	Klages/Baronesse	2 row	feed/malting
NDSU	36	ND15422		6 row	malting
NDSU	37	Drummond (ND15477)	ND9712//Stander/ND12200	6 row	malting
USDA-ARS	38	* 95SR149C	Bancroft/Harrington	2 row	malting
USDA-ARS	39	* 95SR316A	Bancroft/Crystal	2 row	malting

*New entries

Table 2: Seasonal Measurements (1999-2001) of the Western Regional Spring Barley Nursery

Average of adjusted means of checks Baronesse, Morex, Stander, and Steptoe

Yield		
Year	Station Years	Mg ha ⁻¹
1999	12	6.2
2000	12	6.1
2001	13	5.3
Adj. Mean		5.9

Test Weight		
Year	Station Years	kg m ⁻³
1999	12	647.5
2000	12	668.6
2001	13	653.8
Adj. Mean		656.7

Plump		
Year	Station Years	%
1999	12	90.1
2000	10	89.8
2001	10	88.1
Adj. Mean		89.4

Heading Date		
Year	Station Years	Julian
1999	12	182.4
2000	12	173.9
2001	9	175.8
Adj. Mean		177.4

Plant Height		
Year	Station Years	cm
1999	12	85.2
2000	12	82.3
2001	14	76.6
Adj. Mean		81.4

Table 3: 2001 Western Regional Spring Barley Means Summary

Entry no. of stations	Yield			Test Weight			Heading Julian	Height in. cm	Plump	
	Ib/A	Mg ha ⁻¹	rank	lb/bu	kg m ⁻³	rank			>6/64	Thin
	13			13			9	14	9	
Steptoe	4852	5.43	24	48.0	618.0	38	174	29	74	90 3
Baronesse	4889	5.47	19	51.4	679.2	16	179	28	70	89 4
Morex	4322	4.84	39	49.0	649.2	34	174	33	84	85 4
Stander	4799	5.37	27	50.5	668.8	26	176	31	78	89 3
Harrington	4602	5.15	35	51.0	673.8	20	179	29	74	85 5
PB1-95-2R-517	4942	5.53	17	51.9	687.5	9	177	30	76	91 3
PB1-95-2R-A629	4778	5.35	31	51.9	685.3	8	176	30	76	91 2
PB1-97-2R-7090	5199	5.82	6	53.1	705.0	1	178	29	74	93 2
BZ594-20	5276	5.91	3	52.4	695.6	4	176	28	72	94 2
BZ596-117	5018	5.62	13	52.9	704.8	2	177	29	73	93 2
BCD 47	4508	5.05	38	50.3	669.4	28	178	25	63	89 4
93Ab688	5085	5.69	9	48.2	638.0	36	175	30	75	75 8
92Ab5180	4857	5.44	22	47.5	627.8	39	174	28	71	74 9
UT003757	5313	5.95	2	48.4	638.0	35	174	28	70	80 6
UT004467	5087	5.70	8	48.1	637.6	37	173	28	70	70 9
UT95B1216-4087	5607	6.28	1	49.8	659.3	31	175	30	77	87 4
UT97B1480-1632	5033	5.64	12	51.2	676.9	18	172	30	77	89 3
WA8682-96	4944	5.54	16	52.0	688.6	6	177	29	74	89 4
WA8709-96	5048	5.65	11	51.7	684.5	11	179	29	73	90 4
WA10147-96	4997	5.60	14	50.8	671.8	23	179	28	71	91 3
WA10138-96	5224	5.85	5	51.2	679.9	17	177	30	76	92 3
Legacy	4860	5.44	20	49.1	647.4	33	176	33	83	85 4
6B95-2482	4832	5.41	25	50.5	667.9	25	176	32	82	91 3
6B95-2089	4583	5.13	37	50.0	659.8	29	175	31	80	87 4
2B96-5057	4859	5.44	21	51.4	677.5	15	180	28	71	92 3
2B97-4077	4765	5.34	32	51.4	678.7	14	180	31	78	87 4
2B97-4299	5169	5.79	7	50.4	666.6	27	179	30	76	89 4
CDC Copeland	4855	5.44	23	51.0	673.8	22	180	31	78	90 3
CDC Select	4816	5.39	26	51.0	674.9	19	178	30	77	92 2
TR 167	4798	5.37	28	51.7	682.6	10	177	31	79	93 2
CDC Bold	4782	5.36	30	51.0	677.5	21	178	30	76	85 5
CDC Helgason	4916	5.50	18	52.3	694.9	5	179	30	77	89 3
MT960099	5237	5.86	4	51.4	681.5	13	180	27	69	82 5
MT960228	5058	5.66	10	51.4	680.8	12	179	30	75	88 4
MT970116	4994	5.59	15	52.4	701.7	3	177	32	80	93 2
ND15422	4791	5.36	29	49.2	653.6	32	176	31	78	89 4
Drummond	4712	5.28	33	49.9	660.0	30	175	32	81	90 3
95SR149C	4596	5.15	36	50.6	665.3	24	181	30	77	85 5
95SR316A	4642	5.20	34	51.9	690.7	7	180	31	80	87 4
Average	4914	5.50		50.7	671.1		177	30	76	88 4

Table 4: 2001 Western Regional Spring Barley, Grain Yield (Mg ha⁻¹)

	Aberdeen	Bonners Ferry	Idaho Falls	Moscow	Manhattan	Fairfield	Williston	Fargo	Minot	Klamath Falls	Pullman	Logan	Powell	Average	
	ID	ID	ID	ID	MT	MT	ND	ND	ND	OR	WA	UT	WY		
1	Steptoe	8.45	1.51	7.96	6.05	6.03	5.59	4.74	4.16	4.04	4.93	5.96	4.61	6.62	5.43
2	Baronesse	8.55	2.13	5.59	7.11	5.75	5.49	5.23	4.30	3.96	5.79	6.49	4.93	5.86	5.47
3	Morex	7.31	1.25	6.62	6.11	5.09	5.22	4.53	3.82	3.45	3.91	5.09	3.77	6.74	4.84
4	Stander	8.89	1.20	7.55	7.57	5.72	4.23	5.15	4.27	4.05	4.19	6.13	4.15	6.78	5.37
5	Harrington	6.68	1.99	6.61	6.18	5.56	5.21	5.21	3.88	3.98	5.19	6.01	4.57	5.91	5.15
6	PB1-95-2R-517	7.89	2.13	7.97	7.52	5.77	5.49	5.15	4.52	4.29	4.82	6.48	4.47	5.42	5.53
7	PB1-95-2R-A629	7.54	2.19	7.67	7.61	5.28	5.40	5.34	4.72	4.26	4.12	6.18	3.96	5.29	5.35
8	PB1-97-2R-7090	8.33	2.07	8.26	7.22	7.28	6.52	5.09	3.94	4.84	4.83	6.49	5.01	5.79	5.82
9	BZ594-20	8.92	1.97	8.57	8.66	6.23	5.26	5.06	4.86	4.04	5.45	6.39	4.93	6.45	5.91
10	BZ596-117	8.02	2.40	7.27	7.95	6.49	5.23	5.29	4.39	4.29	4.93	6.54	4.78	5.47	5.62
11	BCD 47	7.94	1.56	6.89	8.10	5.58	5.36	4.65	3.07	2.58	4.02	6.24	3.99	5.64	5.05
12	93Ab688	9.43	1.52	6.82	8.09	6.12	6.21	4.89	4.57	4.13	4.85	6.24	4.60	6.55	5.69
13	92Ab5180	8.95	1.46	8.35	8.63	5.47	6.27	3.90	4.22	3.83	4.12	5.68	4.00	5.82	5.44
14	UT003757	9.09	2.02	9.47	8.73	7.28	5.77	5.16	3.74	3.93	4.64	6.11	4.91	6.48	5.95
15	UT004467	9.56	1.94	7.96	8.44	5.56	5.28	4.40	4.24	4.33	5.06	6.05	4.50	6.75	5.70
16	UT95B1216-4087	10.35	2.05	8.30	8.05	7.35	5.66	4.95	4.72	4.89	5.31	7.17	5.27	7.56	6.28
17	UT97B1480-1632	7.62	2.00	7.62	8.44	6.33	4.86	5.14	4.50	4.00	5.01	6.17	4.76	6.81	5.64
18	WA8682-96	8.41	2.17	6.99	6.55	6.30	5.42	4.82	4.45	4.06	6.16	6.10	5.30	5.24	5.54
19	WA8709-96	7.93	2.01	7.22	6.96	6.19	5.73	5.27	4.34	4.24	6.10	6.38	5.24	5.89	5.65
20	WA10147-96	8.44	1.85	6.89	7.66	5.77	5.19	5.10	4.62	4.61	5.68	6.39	4.89	5.64	5.60
21	WA10138-96	8.12	2.18	7.47	7.61	7.12	6.39	5.22	4.40	4.50	5.68	6.61	5.36	5.39	5.85
22	Legacy	8.57	1.35	7.43	6.82	5.63	5.57	4.86	4.28	4.40	5.25	5.72	4.63	6.25	5.44
23	6B95-2482	8.61	1.54	8.19	7.12	5.28	5.24	4.86	4.24	4.80	4.62	6.16	4.20	5.50	5.41
24	6B95-2089	7.81	1.26	7.78	5.97	5.70	5.51	4.89	4.27	4.10	4.09	6.02	4.09	5.23	5.13
25	2B96-5057	7.64	1.52	7.30	8.22	6.00	6.18	4.64	4.48	3.94	5.17	6.19	4.71	4.73	5.44
26	2B97-4077	7.64	2.17	7.57	7.71	5.23	5.72	5.05	4.53	4.42	4.87	5.71	4.30	4.44	5.34
27	2B97-4299	7.97	1.98	7.21	8.06	6.07	6.72	5.24	4.26	4.91	5.48	6.47	4.90	5.96	5.79
28	CDC Copeland	7.62	2.04	7.20	7.02	6.47	6.24	5.28	4.25	4.27	4.84	6.05	4.72	4.69	5.44
29	CDC Select	7.65	2.07	6.27	7.27	5.93	6.10	4.95	4.35	4.27	5.05	6.46	4.64	5.09	5.39
30	TR 167	7.85	1.96	7.53	7.12	6.05	5.37	4.93	4.63	4.12	4.51	6.29	4.41	5.06	5.37
31	CDC Bold	8.04	1.74	6.84	6.24	5.98	5.41	5.14	4.69	3.59	5.28	6.69	4.76	5.24	5.36
32	CDC Helgason	7.71	2.02	7.58	7.01	6.42	4.82	4.84	4.46	4.65	5.57	6.06	5.06	5.34	5.50
33	MT960099	8.88	2.31	6.69	7.72	6.91	5.81	5.33	4.99	4.74	5.76	6.20	5.33	5.58	5.86
34	MT960228	7.51	2.43	7.44	6.51	6.65	5.59	5.23	5.31	4.50	5.27	6.54	5.00	5.64	5.66
35	MT970116	8.26	1.83	8.04	6.96	6.96	5.12	4.92	4.85	4.33	4.79	6.47	4.87	5.30	5.59
36	ND15422	8.71	1.48	7.84	6.90	6.42	5.38	4.79	3.80	4.77	4.09	5.77	4.35	5.45	5.36
37	Drummond	8.31	1.21	7.71	6.44	5.96	4.97	4.71	3.81	4.21	4.38	6.02	4.32	6.56	5.28
38	95SR149C	7.32	2.40	6.24	6.81	5.47	4.64	4.97	4.40	4.31	5.30	5.95	4.59	4.52	5.15
39	95SR316A	7.24	1.73	7.25	6.95	5.77	3.53	5.23	4.18	4.07	5.42	6.37	4.76	5.09	5.20
	Average	8.20	1.86	7.71	7.34	6.08	5.48	4.98	4.35	4.22	4.99	6.21	4.66	5.74	5.50
	LSD .05	0.023	0.012	0.040	0.018	0.019	0.025	0.008	0.010	0.010	0.019	0.008	0.019	0.019	
	C.V.	10.38	25.09	17.90	9.58	10.53	15.36	5.10	8.70	9.00	14.45	4.59	29.92	10.90	
	Planting Date	4/13/01	4-17-01	4/20/01	5-08-01	5/9/01	4/25/01	5/8/01	5/2/01	4/26/01	5/8/01	4/23/01	4/18/01	-	
	Harvest Date	-	8-14-01	8/13/01	8-28-01	8/30/01	8/16/01	8/10/01	-	-	8/20/01	8/15/01	8/12/01	-	

Table 5: 2001 Western Regional Spring Barley, Test Weight (kg m⁻³)

	Aberdeen	Bonners Ferry	Moscow	Genesee	Manhattan	Fairfield	Williston	Fargo	Minot	Klamath Falls	Pullman	Logan	Powell	Average
	ID	ID	ID	ID	MT	MT	ND	ND	ND	OR	WA	UT	WY	
1	Steptoe	644.1	610.6	636.4	636.4	638.9	555.2	546.2	605.4	618.3	676.3	632.9	611.7	622.2 618.0
2	Baronesse	690.5	649.2	658.3	658.3	696.9	633.8	637.6	644.1	644.1	695.6	679.3	875.0	667.3 679.2
3	Morex	650.5	619.6	647.9	647.9	658.9	532.0	587.4	618.3	605.4	669.8	666.8	859.0	676.3 649.2
4	Stander	680.1	619.6	668.6	668.6	692.4	568.1	613.2	631.2	657.0	695.6	674.1	868.4	657.0 668.8
5	Harrington	685.9	654.4	647.9	647.9	685.9	653.1	623.5	618.3	631.2	708.5	666.8	859.0	676.3 673.8
6	PB1-95-2R-517	683.4	650.5	687.9	687.9	704.6	640.2	628.6	618.3	631.2	727.8	692.2	891.6	693.0 687.5
7	PB1-95-2R-A629	696.9	657.0	676.3	676.3	716.2	637.6	632.5	631.2	644.1	695.6	690.5	889.4	666.0 685.3
8	PB1-97-2R-7090	698.8	660.8	694.3	694.3	734.9	627.3	653.1	644.1	669.8	734.3	725.7	934.8	693.0 705.0
9	BZ594-20	685.9	637.6	687.9	687.9	736.8	601.6	657.0	657.0	657.0	708.5	715.4	921.5	689.2 695.6
10	BZ596-117	705.3	655.7	703.3	703.3	731.7	638.9	650.5	669.8	682.7	708.5	713.2	918.7	680.1 704.8
11	BCD 47	688.5	633.8	678.9	678.9	696.9	579.7	620.9	618.3	592.6	682.7	688.7	887.2	655.7 669.4
12	93Ab688	658.9	619.6	635.1	635.1	660.2	582.2	575.8	605.4	592.6	669.8	625.2	805.3	628.6 638.0
13	92Ab5180	680.1	584.8	632.5	632.5	660.8	551.3	559.1	592.6	566.8	644.1	638.5	822.5	596.4 627.8
14	UT003757	638.3	623.5	660.8	660.8	653.7	571.9	587.4	579.7	592.6	644.1	642.4	827.5	611.9 638.0
15	UT004467	652.5	615.7	647.9	647.9	650.5	492.1	595.1	605.4	605.4	669.8	647.1	833.6	626.0 637.6
16	UT95B1216-4087	665.3	627.3	657.0	657.0	677.6	524.3	602.9	631.2	644.1	708.5	670.7	864.0	641.5 659.3
17	UT97B1480-1632	680.1	653.1	672.4	672.4	682.7	609.3	622.2	644.1	631.2	708.5	684.9	882.2	657.0 676.9
18	WA8682-96	701.4	669.8	676.3	676.3	674.4	640.2	641.5	657.0	644.1	721.4	695.6	896.1	658.3 688.6
19	WA8709-96	673.1	658.3	654.4	654.4	703.3	642.8	653.1	631.2	657.0	727.8	682.7	879.5	681.4 684.5
20	WA10147-96	678.9	644.1	658.3	658.3	674.4	623.5	629.9	618.3	644.1	689.2	673.7	867.8	673.7 671.8
21	WA10138-96	704.6	645.4	654.4	654.4	702.7	627.3	635.1	631.2	644.1	702.0	679.3	875.0	682.7 679.9
22	Legacy	669.8	627.3	645.4	645.4	663.4	548.8	593.8	618.3	618.3	669.8	641.1	825.8	649.2 647.4
23	6B95-2482	673.1	608.0	657.0	657.0	689.8	620.9	624.8	644.1	631.2	689.2	671.1	864.5	651.8 667.9
24	6B95-2089	668.6	601.6	655.7	655.7	673.7	507.5	626.0	631.2	644.1	695.6	682.7	879.5	655.7 659.8
25	2B96-5057	684.7	632.5	675.0	675.0	692.4	629.9	633.8	631.2	631.2	696.9	680.1	876.1	668.6 677.5
26	2B97-4077	688.5	647.9	669.8	669.8	694.3	632.5	645.4	631.2	631.2	682.7	682.3	878.9	668.6 678.7
27	2B97-4299	687.2	649.2	637.6	637.6	672.4	595.1	627.3	631.2	631.2	695.6	670.3	863.4	667.3 666.6
28	CDC Copeland (TR150)	698.2	641.5	653.1	653.1	684.0	623.5	617.0	618.3	618.3	682.7	690.9	890.0	689.2 673.8
29	CDC Select	696.9	659.5	678.9	678.9	700.1	560.4	618.3	618.3	631.2	695.6	684.0	881.1	671.1 674.9
30	TR 167	685.3	666.0	677.6	677.6	696.9	628.6	640.2	631.2	618.3	702.0	681.9	878.4	690.5 682.6
31	CDC Bold	688.5	631.2	654.4	654.4	710.4	642.8	600.3	618.3	618.3	689.2	705.1	908.2	686.6 677.5
32	CDC Helgason	695.6	664.7	681.4	681.4	712.4	627.3	657.0	631.2	669.8	702.0	706.8	910.4	693.0 694.9
33	MT960099	671.8	647.9	673.7	673.7	689.8	609.3	640.2	644.1	644.1	714.9	691.7	891.1	667.3 681.5
34	MT960228	673.1	663.4	664.7	664.7	680.1	611.9	644.1	644.1	631.2	721.4	691.3	890.5	669.8 680.8
35	MT970116	707.2	663.4	694.3	694.3	723.3	649.2	660.8	657.0	644.1	708.5	708.1	912.1	699.5 701.7
36	ND15422	666.6	619.6	626.0	626.0	678.2	601.6	604.1	631.2	644.1	650.5	656.1	845.2	647.9 653.6
37	Drummond	660.8	614.5	663.4	663.4	696.9	575.8	599.0	618.3	631.2	669.8	671.6	865.1	650.5 660.0
38	95SR149C	660.2	646.7	663.4	663.4	683.4	649.2	615.7	618.3	605.4	689.2	647.9	834.7	671.1 665.3
39	95SR316A	684.7	659.5	675.0	675.0	711.1	644.1	638.9	657.0	644.1	721.4	692.6	892.2	684.0 690.7
	Average	679.6	639.4	663.7	663.7	689.4	602.3	621.5	628.9	631.9	694.0	678.0	873.3	664.5 671.1

Table 6: 2001 Western Regional Spring Barley, Plant Height (cm)

	Aberdeen	Bonners Ferry	Idaho Falls	Moscow	Tammany	Manhattan	Fairfield	Williston	Fargo	Minot	Klamath Falls	Pullman	Logan	Powell	Average	
	ID	ID	ID	ID	MT	MT	ND	ND	ND	OR	WA	UT	WY			
1	Steptoe	93	46	94	86	69	81	81	65	76	87	61	78	51	74	
2	Baronesse	88	41	84	91	66	77	81	64	57	68	66	77	53	67	
3	Morex	97	48	102	104	79	91	104	69	81	86	71	105	64	79	
4	Stander	93	43	89	104	83	85	91	72	73	72	69	85	48	78	
5	Harrington	86	48	86	97	77	85	81	62	68	73	69	81	48	80	
6	PB1-95-2R-517	89	43	91	97	75	88	86	61	73	85	58	85	56	71	
7	PB1-95-2R-A629	87	46	86	94	74	84	89	73	72	77	61	86	53	75	
8	PB1-97-2R-7090	91	48	94	89	71	83	91	60	65	78	64	79	53	73	
9	BZ594-20	90	43	84	91	70	79	81	66	72	71	64	74	56	65	
10	BZ596-117	97	46	86	99	74	84	84	63	66	68	58	79	43	79	
11	BCD 47	74	41	79	81	66	65	69	55	55	62	56	74	51	59	
12	93Ab688	95	46	86	89	79	86	99	71	71	73	64	81	46	71	
13	92Ab5180	84	43	91	97	72	77	84	58	71	70	64	75	48	67	
14	UT003757	83	43	79	91	69	79	81	60	69	75	64	73	51	69	
15	UT004467	77	46	79	91	65	80	74	59	66	74	69	73	61	69	
16	UT95B1216-4087	90	48	86	97	71	88	84	66	75	83	71	86	56	77	
17	UT97B1480-1632	90	53	81	97	72	80	91	70	73	80	74	83	61	72	
18	WA8682-96	86	46	84	97	75	83	91	64	75	69	64	84	51	75	
19	WA8709-96	87	41	81	89	71	81	86	62	68	75	64	80	61	73	
20	WA10147-96	84	43	84	91	71	75	86	58	63	76	64	74	53	65	
21	WA10138-96	93	46	91	97	76	86	81	66	68	75	64	81	66	70	
22	Legacy	99	43	97	107	80	86	94	71	78	87	84	91	64	78	
23	6B95-2482	98	46	104	102	80	91	91	75	76	81	74	94	58	82	
24	6B95-2089	90	48	94	102	76	88	86	73	76	87	76	89	53	81	
25	2B96-5057	83	43	91	94	66	76	74	63	65	69	69	79	58	70	
26	2B97-4077	93	53	91	94	71	88	79	67	77	83	71	88	56	77	
27	2B97-4299	90	46	94	94	72	85	81	61	70	74	71	84	66	72	
28	CDC Copeland	90	51	94	97	75	90	86	68	70	74	71	83	58	81	
29	CDC Select	90	48	97	97	72	91	86	67	68	75	66	80	61	78	
30	TR 167	96	46	97	97	85	89	86	66	72	84	64	87	53	85	
31	CDC Bold	92	51	97	99	74	85	94	68	58	72	64	77	56	71	
32	CDC Helgason	96	46	91	99	78	88	86	64	66	87	69	79	48	77	
33	MT960099	86	38	81	81	70	72	84	59	65	64	58	69	64	68	
34	MT960228	83	43	84	91	68	88	91	71	73	77	64	81	64	76	
35	MT970116	92	51	97	94	78	91	91	76	79	75	69	90	58	82	
36	ND15422	91	43	97	97	76	85	99	67	70	78	69	91	53	77	
37	Drummond	93	48	102	99	77	88	102	77	73	83	69	93	53	84	
38	95SR149C	94	58	89	94	67	85	91	69	67	84	69	84	53	79	
39	95SR316A	98	48	97	99	90	88	79	68	69	88	69	81	64	79	
Average		90	46	90	95	74	84	87	66	70	77	67	82	56	74	76

Table 7: 2001 Western Regional Spring Barley, Heading Date (Julian)

	Aberdeen	Tammany	Bonners Ferry	Moscow	Williston	Fargo	Minot	Klamath Falls	Pullman	Average
	ID	ID	ID	ID	ND	ND	ND	OR	WA	
1	Steptoe	169	155	171	183	175	179	179	173	174
2	Baronesse	175	159	185	187	182	184	181	178	179
3	Morex	168	155	172	183	179	179	179	174	174
4	Stander	169	159	176	184	179	179	179	174	176
5	Harrington	176	159	179	189	182	184	181	178	179
6	PB1-95-2R-517	176	155	178	185	180	182	180	178	177
7	PB1-95-2R-A629	174	155	173	184	179	180	178	176	176
8	PB1-97-2R-7090	175	159	176	187	182	183	181	177	178
9	BZ594-20	173	154	177	183	178	179	181	175	176
10	BZ596-117	173	158	175	186	180	184	181	176	177
11	BCD 47	173	158	174	185	182	185	182	177	178
12	93Ab688	169	154	174	184	179	179	178	178	175
13	92Ab5180	168	155	172	184	177	178	179	176	174
14	UT003757	166	154	172	182	176	179	179	175	174
15	UT004467	165	153	173	181	177	179	178	173	173
16	UT95B1216-4087	169	155	174	184	178	180	178	176	175
17	UT97B1480-1632	164	153	170	180	175	176	177	174	172
18	WA8682-96	176	155	178	185	180	182	180	177	177
19	WA8709-96	175	160	177	188	182	184	181	177	179
20	WA10147-96	176	159	178	187	181	184	181	178	179
21	WA10138-96	174	155	178	185	181	181	179	177	177
22	Legacy	170	155	176	185	179	180	181	177	176
23	6B95-2482	170	159	175	185	179	180	178	175	176
24	6B95-2089	170	155	176	184	178	178	180	177	175
25	2B96-5057	177	160	187	188	182	185	181	177	180
26	2B97-4077	177	160	182	188	183	183	181	178	180
27	2B97-4299	178	159	180	188	182	184	181	178	179
28	CDC Copeland	176	159	182	190	184	185	181	182	180
29	CDC Select	175	157	178	186	181	183	181	178	178
30	TR 167	174	158	177	185	180	182	180	177	177
31	CDC Bold	173	158	176	185	181	184	181	180	178
32	CDC Helgason	175	159	179	187	182	184	181	177	179
33	MT960099	176	159	188	187	181	184	181	179	180
34	MT960228	176	159	180	185	181	182	181	179	179
35	MT970116	172	158	178	185	179	181	181	176	177
36	ND15422	170	159	173	185	179	180	179	177	176
37	Drummond	169	159	172	184	178	179	180	175	175
38	95SR149C	177	160	182	191	184	186	182	178	181
39	95SR316A	177	163	181	190	183	185	182	179	180
	Average	173	157	177	185	180	182	180	177	177

Table 8: 2001 Western Regional Spring Barley, Percent Plump Barley

	Aberdeen	Bonners Ferry	Moscow	Manhattan	Fairfield	Fargo	Williston	Klamath Falls	Pullman	Powell	Average	Average *
	ID	ID	ID	MT	MT	ND	ND	OR	WA	WY		
1	Steptoe	92	84	85	83	96	86	90	95	90	96	90
2	Baronesse	96	87	77	76	98	92	92	91	90	93	89
3	Morex	88	80	70	63	91	88	92	92	86	97	85
4	Stander	94	76	79	81	96	92	93	94	90	97	89
5	Harrington	99	75	50	79	97	89	92	91	89	97	86
6	PB1-95-2R-517	97	87	84	89	97	89	90	90	98	98	92
7	PB1-95-2R-A629	98	86	81	93	97	84	91	95	94	97	91
8	PB1-97-2R-7090	97	86	84	96	98	91	95	92	97	99	93
9	BZ594-20	96	88	87	97	99	94	97	91	98	99	95
10	BZ596-117	97	88	89	96	98	93	96	89	96	96	94
11	BCD 47	97	75	84	91	97	86	88	89	99	93	90
12	93Ab688	87	77	56	54	91	69	67	91	55	83	73
13	92Ab5180	93	81	72	63	87	83	73	47	71	65	74
14	UT003757	87	74	75	79	90	71	74	83	62	85	78
15	UT004467	78	65	54	57	86	62	68	83	75	77	70
16	UT95B1216-4087	96	84	75	75	91	88	84	94	84	93	86
17	UT97B1480-1632	91	92	80	77	93	89	87	97	88	95	89
18	WA8682-96	99	88	78	69	98	93	94	95	96	92	89
19	WA8709-96	91	90	69	85	98	94	95	97	92	96	91
20	WA10147-96	97	89	78	81	98	94	94	93	91	96	91
21	WA10138-96	98	88	76	90	98	91	95	92	94	97	92
22	Legacy	94	77	65	70	94	90	88	97	77	95	85
23	6B95-2482	95	76	79	92	97	94	94	93	91	96	91
24	6B95-2089	97	72	76	73	94	89	92	93	92	97	87
25	2B96-5057	96	84	86	88	98	93	95	94	96	98	93
26	2B97-4077	88	87	71	78	98	86	91	88	92	97	88
27	2B97-4299	97	88	68	82	97	90	92	91	84	98	89
28	CDC Copeland	99	87	74	80	98	88	92	95	94	97	90
29	CDC Select	96	87	85	87	98	90	91	96	93	98	92
30	TR 167	98	90	85	89	99	92	94	96	90	98	93
31	CDC Bold	92	78	70	87	94	78	86	87	94	95	86
32	CDC Helgason	96	85	80	77	98	89	92	92	91	97	90
33	MT960099	85	76	76	63	95	82	86	85	84	90	82
34	MT960228	92	89	71	76	97	90	92	92	91	93	88
35	MT970116	97	87	85	95	98	93	95	93	97	98	94
36	ND15422	96	83	64	87	97	92	93	95	88	96	89
37	Drummond	96	80	73	94	96	93	91	96	91	95	90
38	95SR149C	84	85	74	72	95	80	85	94	-	96	-
39	95SR316A	86	87	70	85	98	87	88	88	94	96	88
Average		93	83	75	81	88	89	91	89	94	88	87

* excludes Pullman WA

Table 9: 2001 Western Regional Spring Barley, Percent Thin Barley

	Aberdeen	Bonners Ferry	Moscow	Manhattan	Fairfield	Fargo	Williston	Klamath Falls	Pullman	Powell	Average	Average *
	ID	ID	ID	MT	MT	ND	ND	OR	WA	WY		
1	Steptoe	2	8	5	3	1	2	3	4	2	3	3
2	Baronesse	1	6	8	7	0	2	3	3	2	4	4
3	Morex	2	9	10	11	1	1	2	4	1	4	4
4	Stander	1	12	7	5	0	2	2	2	1	3	3
5	Harrington	0	10	23	5	0	2	3	3	1	5	5
6	PB1-95-2R-517	1	7	5	3	0	1	3	3	1	2	3
7	PB1-95-2R-A629	1	6	6	1	0	2	3	1	2	0	2
8	PB1-97-2R-7090	1	6	5	1	0	2	2	2	1	0	2
9	BZ594-20	1	6	6	1	0	2	1	3	1	0	2
10	BZ596-117	1	7	4	1	0	1	2	3	1	1	2
11	BCD 47	0	16	5	2	0	2	4	2	0	1	3
12	93Ab688	4	10	17	15	1	4	13	3	15	2	8
13	92Ab5180	2	9	8	12	1	3	9	17	10	21	9
14	UT003757	4	10	8	7	1	7	10	5	15	3	7
15	UT004467	6	12	18	12	1	7	14	5	8	8	9
16	UT95B1216-4087	1	9	11	7	1	2	5	2	6	1	4
17	UT97B1480-1632	2	5	6	7	1	2	4	1	4	1	3
18	WA8682-96	0	6	9	14	0	2	2	2	1	2	4
19	WA8709-96	3	6	12	14	0	1	2	1	3	1	4
20	WA10147-96	1	7	8	6	0	1	2	2	2	1	3
21	WA10138-96	1	7	9	3	0	2	2	2	1	1	3
22	Legacy	1	10	14	9	0	1	3	1	7	1	5
23	6B95-2482	0	11	7	1	0	1	1	2	2	0	2
24	6B95-2089	0	15	7	7	0	1	2	1	1	1	4
25	2B96-5057	1	11	5	4	0	2	2	2	2	1	3
26	2B97-4077	5	6	11	6	0	2	3	3	3	1	4
27	2B97-4299	1	6	12	6	0	2	3	3	6	1	4
28	CDC Copeland	0	7	10	6	0	2	3	1	2	1	3
29	CDC Select	1	7	5	3	0	2	3	1	2	0	2
30	TR 167	1	6	6	4	0	2	2	1	3	0	2
31	CDC Bold	2	12	12	4	0	4	5	3	2	2	5
32	CDC Helgason	1	7	7	3	0	1	3	2	3	1	3
33	MT960099	5	9	7	11	1	3	6	4	5	2	5
34	MT960228	2	5	14	10	0	1	3	2	3	1	4
35	MT970116	1	8	4	1	0	1	2	2	0	0	2
36	ND15422	0	10	15	3	0	1	2	1	3	1	4
37	Drummond	1	12	10	1	0	1	2	1	3	2	3
38	95SR149C	5	7	9	10	1	3	6	1	-	1	-
39	95SR316A	5	7	11	5	0	3	5	4	2	1	4
Average		1	8	9	6	2	4	2	4	2	4	4

* excludes Pullman WA

Table 10: 2001 Western Regional Spring Barley, Percent Lodging

	Aberdeen	Idaho Falls	Moscow	Tammany	Manhattan	Fargo	Williston	Klamath Falls OR	Powell	
									ID	ID
									(%)	(%)
1	Steptoe	83	0	7	40	43	4.0	23	0	4
2	Baronesse	23	3	8	15	17	2.3	26	0	4
3	Morex	75	5	9	50	97	4.7	3	0	3
4	Stander	5	0	6	40	20	4.0	20	0	6
5	Harrington	50	4	9	30	67	3.0	40	0	6
6	PB1-95-2R-517	13	0	8	10	30	3.0	13	0	1
7	PB1-95-2R-A629	5	1	8	25	60	3.0	38	0	4
8	PB1-97-2R-7090	8	0	6	10	3	2.7	0	0	4
9	BZ594-20	10	0	4	5	7	3.0	0	0	2
10	BZ596-117	3	0	7	8	0	3.0	10	0	4
11	BCD 47	3	0	5	8	30	1.0	18	0	5
12	93Ab688	60	0	6	10	40	4.0	8	0	4
13	92Ab5180	10	0	3	8	0	3.7	0	0	2
14	UT003757	0	0	3	8	0	3.0	5	0	1
15	UT004467	0	0	6	8	0	2.7	5	0	1
16	UT95B1216-4087	15	0	7	15	0	4.3	23	0	2
17	UT97B1480-1632	18	0	7	30	17	4.3	8	0	1
18	WA8682-96	19	6	9	10	77	2.7	3	0	6
19	WA8709-96	55	4	7	5	13	2.3	5	0	4
20	WA10147-96	3	2	7	15	33	3.0	1	0	2
21	WA10138-96	3	0	8	10	30	2.7	3	0	3
22	Legacy	70	0	8	30	47	4.3	23	0	5
23	6B95-2482	13	0	7	30	33	4.0	5	0	5
24	6B95-2089	33	0	8	25	77	4.0	10	0	5
25	2B96-5057	53	0	5	20	0	4.0	0	0	6
26	2B97-4077	33	1	8	25	27	3.3	1	0	2
27	2B97-4299	29	3	7	25	23	2.7	0	0	5
28	CDC Copeland	40	1	8	25	43	3.0	8	0	3
29	CDC Select	43	2	7	10	27	3.7	5	0	5
30	TR 167	36	2	8	15	70	3.0	3	0	4
31	CDC Bold	38	3	8	25	20	3.0	23	0	6
32	CDC Helgason	45	1	8	20	40	4.0	4	0	2
33	MT960099	33	0	7	10	27	3.0	0	0	7
34	MT960228	83	3	9	8	87	3.0	5	0	7
35	MT970116	38	0	6	8	23	3.7	5	0	7
36	ND15422	8	1	8	15	40	3.0	4	0	5
37	Drummond	3	0	7	12	0	3.3	5	0	4
38	95SR149C	78	5	8	12	27	4.7	15	0	7
39	95SR316A	60	5	7	20	0	3.0	8	0	7
Average		30	1	7	18	31	3	9	0	4
										2

WESTERN REGIONAL SPRING DRYLAND BARLEY NURSERY, 2001

This nursery is intended to be grown on dryland. It contains both 2- and 6-rowed feed and malting barley.

Locations in the 2001 nursery that were harvested and summarized for yield from 6 locations are:

Tetonia, ID	Bozeman, MT
Gennesse, ID	Williston, ND
Blue Creek, UT	Fargo, ND

General Information

The entry list for the 2001 Western Regional Dryland Spring Barley Nursery is shown in Table 11. In 2001, commercial cultivars were again entered into the nursery, including those from: Busch Agricultural Resources (6 lines).

There were 27 entries in this nursery in 2001. Entries in the 2000 test that were dropped in 2001 were: WA9504-94, MT910189, all tested 3 years; 2ND16161, 2ND16453, 95Ab13058, BA6B94-8253, MTLB-05, Valier (MTLB-30), WA11825-95, WPD-BZ594-35, all tested 2 Years; 2ND17275, BA2B96-5038, BA2B96-5119, and WA11801-95, all tested 1 year. New entries in the test were: 95M4623, 97Ab7973, 98Ab11993, 6B95-2482, 6B95-2089, 2B96-5057, 2B97-4077, 2B97-4299, MT960099, MT960228, MT970116, and 95SR7A.

Data Analysis

Computer software, in Lotus and Excel format, was used to obtain the cultivar means and period of years summary for all characteristics. With this software, we were also able to calculate the coefficient of variation (C.V.) and the Least Significant Difference (LSD) at the .05 level for grain yield. These two statistics are included to provide some indication of the variability in the individual test locations and an indication of cultivar rank at each location and the overall average.

Data Highlights

Seasonal measurements for the check cultivars Munsing, Clark, and Steptoe (Table 12), for 1980 through 2001, show that the check mean grain yield value for the 2001 season was higher than average. Test weight, percent plump barley and plant height were higher than the mean, and heading date was 11.8 days earlier than the mean.

In 2001 the highest yielding line over locations was UT95B1216-4087, a six-rowed feed barley, at 5.12 Mg ha^{-1} (Table 13). UT4988 was the second highest yielding line over all locations, and MT960228 was ranked fourth. Both are six-rowed feed barley cultivars. BARI

2B97-4077 was the highest yielding malting barley, ranked third at 5.01 Mg ha^{-1} , and BARI 2B97-4299 was ranked fifth at 4.93 Mg ha^{-1} . Four of the top ten yielding lines were malting types.

Tables 14 through 20 present the 2001 data for individual locations for grain yield, test weight, height, heading date, plumps, thins, and lodging, respectively.

Table 11. 2001 Western Regional Dryland Spring Barley Entries

Seed Source	Entry No.	Entry	Parentage	Type	Grade
	1	Munsing		2 row	feed
	2	Steptoe		6 row	feed
	3	Clark		2 row	feed
	4	Hector		2 row	feed
USDA-ARS	5	91Ab3148	Gallatin/78Ab10099//Bowman	2 row	feed
USDA-ARS	6	93Ab688	M44/80Ab4652//79Ab10719	6 row	feed
USDA-ARS	7	95Ab11469	87Ab9561/ND9870	2 row	feed
USDA-ARS	8	* 95M4623	91Ab3074/85Ab2323	2 row	malting
USDA-ARS	9	* 97Ab7973	90Ab241/Baronesse	2 row	malting
USDA-ARS	10	* 98Ab11993	90Ab241/Baronesse	2 row	malting
USU	11	UT95B1216-4087	UT84B427-2507/OR3	6 row	feed
USU	12	UT5828	UT87B604-1705/OR2	6 row	feed
USU	13	UT4938	Century/Medallion	6 row	feed
USU	14	UT4988	Century/Medallion	6 row	feed
USU	15	UT4990	Century/Medallion	6 row	feed
BARI	16	Legacy	6B86-3517/Excel	6 row	malting
BARI	17	* 6B95-2482	6B89-2126/ND10981	6 row	malting
BARI	18	* 6B95-2089	6B84-2912/B1601/6B88-3213	6 row	malting
BARI	19	* 2B96-5057	B1215/B88-5336	2 row	malting
BARI	20	* 2B97-4077	B1215/2B91-4947	2 row	malting
BARI	21	* 2B97-4299	2B91-4947/2B91-4450	2 row	malting
CDC	22	CDC Bold		2 row	feed
CDC	23	CDC Helgason		2 row	feed
MSU	24	* MT960099	Manley/Baronesse	2 row	feed/malting
MSU	25	* MT960228	Stark/ Baronesse	2 row	feed
MSU	26	* MT970116	Klages/Baronesse	2 row	feed/malting
USDA-ARA	27	* 95SR7A	Bancroft/Targhee	2 row	feed

*New entries

Table 12. Western Regional Dryland Spring Barley Nursery, Seasonal Measurements (1980-2001)

Average of Cultivars Munsing, Steptoe, Clark

Yield		
Year	Station Years	Mg ha ⁻¹
1997	8	4.63
1996	9	4.56
1998	10	4.44
1995	9	4.33
2000	7	4.22
2001	6	4.11
1982	14	4.02
1987	13	4.02
1999	9	3.94
1993	7	3.90
1980	15	3.78
1994	9	3.77
1991	9	3.73
1981	17	3.61
1986	14	3.58
1992	8	3.42
1983	14	3.15
1990	10	3.13
1984	16	3.09
1989	10	2.75
1988	11	2.39
1985	18	2.19
Ave		3.46

Test Weight		
Year	Station Years	kg m ⁻³
1980	15	665
1987	12	664
1982	13	658
1996	7	656
1988	11	654
1990	10	653
1983	14	652
1986	13	648
2000	6	646
1992	8	643
1989	10	642
1984	14	638
1997	6	635
1998	9	634
1995	9	631
2001	6	630
1993	4	625
1994	9	624
1985	16	622
1999	8	622
1981	16	621
1991	9	616
Ave		618.9

Plump		
Year	Station Years	%
1987	11	89.7
1997	5	86.6
1996	6	85.1
1995	5	84.6
1993	3	84.5
1986	12	83.1
2000	5	82.1
1980	9	82.1
1982	10	80.3
2001	5	79.7
1983	12	77.3
1998	7	76.9
1999	7	73.2
1998	8	71.8
1992	7	70.5
1981	11	64.4
1989	8	59.9
1994	8	59.8
1990	8	59.5
1991	7	59.1
1984	11	58.9
1985	13	44.9
Ave		69.52

Plant Height		
Year	Station Years	cm
1998	9	78.9
1981	13	73.3
1993	6	72.8
1991	9	72.5
1994	9	72.3
1999	8	70.5
1982	11	69.9
1997	7	69.3
2001	5	68.8
1983	10	65.8
1995	8	65.7
1980	10	64.9
1984	13	64.9
1990	9	64.6
1996	8	64.6
2000	6	62.7
1987	13	62.2
1986	11	61.2
1992	8	60.5
1989	9	59.0
1985	17	53.0
1988	11	51.6
Ave		62.62

Heading date		
Year	Station Years	Julian
1996	8	188
1999	5	187
1995	8	185
2000	6	184
1982	9	183
1997	6	183
1998	8	182
1993	6	181
2001	5	182
1991	8	180
1983	10	179
1984	10	179
1989	8	179
1990	9	179
1988	7	178
1994	8	178
1992	7	177
1981	12	176
1986	9	176
1980	9	171
1985	9	171
1987	9	170
Ave		170.2

Table 13. 2001 Western Regional Dryland Spring Barley Means Summary

Entry	Yield			Test Weight			Heading	Height		Plump	
	Ib/A	Mg ha ⁻¹	rank	Ib/bu	kg m ⁻³	rank		Julian	in.	cm	>6/64
no. of stations	6			6			5	5		5	
Munsing	3463	3.88	27	50.0	643.7	11	180	25	63	72	9
Steptoe	3947	4.42	22	46.8	602.3	27	179	28	72	84	5
Clark	3610	4.04	26	50.0	643.9	10	184	28	71	83	6
Hector	3937	4.41	24	50.0	644.1	9	184	30	76	77	7
91Ab3148	4149	4.65	19	49.6	638.3	13	183	28	72	89	3
93Ab688	4354	4.88	9	46.9	604.0	26	179	29	73	62	13
95Ab11469	4157	4.66	18	50.2	646.5	6	182	29	74	90	3
95M4623	4205	4.71	15	50.9	655.3	3	184	29	72	91	3
97Ab7973	4375	4.90	7	49.3	635.0	17	183	27	68	89	3
98Ab11993	4333	4.85	10	48.6	626.4	18	184	26	67	85	5
UT95B1216-4087	4573	5.12	1	48.5	625.2	21	181	28	72	76	8
UT5828	4165	4.66	17	46.9	604.7	25	180	30	76	89	2
UT4938	4369	4.89	8	48.2	621.4	22	179	30	77	85	3
UT4988	4507	5.05	2	47.7	614.8	24	180	30	76	87	3
UT4990	4382	4.91	6	48.2	620.9	23	179	30	76	86	3
Legacy (6B93-2978)	3935	4.41	25	48.6	625.8	19	181	32	80	85	3
6B95-2482	4259	4.77	11	49.4	636.2	15	180	31	79	90	2
6B95-2089	4038	4.52	21	50.0	644.4	8	180	30	77	87	3
2B96-5057	4138	4.63	20	49.8	641.1	12	185	26	67	91	3
2B97-4077	4471	5.01	3	50.2	646.2	7	184	30	76	83	5
2B97-4299	4401	4.93	5	49.4	636.5	14	184	27	69	85	4
CDC Bold	3942	4.41	23	48.6	625.6	20	183	29	73	74	8
CDC Helgason (TR346)	4227	4.73	13	50.8	654.8	4	184	28	70	83	4
MT960099	4183	4.68	16	52.2	672.7	1	185	25	63	70	11
MT960228	4457	4.99	4	50.2	647.3	5	183	28	70	83	5
MT970116	4217	4.72	14	51.2	659.0	2	182	31	79	91	3
95SR7A	4237	4.74	12	49.4	635.8	16	184	27	68	83	6
Average	4186	4.69		49.3	635.3		182	29	72	83	5

Table 14. 2001 Western Regional Dryland Spring Barley, Yield (Mg ha⁻¹)

	Gennesse ID	Tetonia ID	Bozeman MT	Blue Creek UT	Fargo ND	Williston ND	Average
1	Munsing	4.79	3.85	4.90	1.78	3.94	4.01 3.88
2	Steptoe	5.31	3.86	6.22	1.65	4.48	5.00 4.42
3	Clark	6.29	3.50	5.24	1.73	3.09	4.41 4.04
4	Hector	6.50	3.73	5.85	1.66	4.00	4.72 4.41
5	91Ab3148	7.34	4.00	5.74	1.61	3.99	5.20 4.65
6	93Ab688	8.01	4.12	5.92	1.81	4.64	4.75 4.88
7	95Ab11469	6.28	3.89	6.58	1.77	4.19	5.23 4.66
8	95M4623	7.27	4.08	6.23	1.56	3.72	5.38 4.71
9	97Ab7973	7.73	4.28	6.07	1.63	4.56	5.11 4.90
10	98Ab11993	7.56	3.91	6.22	1.69	4.52	5.22 4.85
11	UT95B1216-4087	8.68	4.53	6.91	1.64	3.60	5.38 5.12
12	UT5828	7.66	3.83	6.50	1.74	3.34	4.92 4.66
13	UT4938	7.50	3.65	6.66	1.78	4.83	4.93 4.89
14	UT4988	7.50	3.64	6.59	2.11	5.17	5.27 5.05
15	UT4990	7.56	3.72	6.30	2.02	4.73	5.11 4.91
16	Legacy	7.94	3.39	5.30	1.49	3.45	4.86 4.41
17	6B95-2482	7.90	3.51	6.28	1.45	4.02	5.45 4.77
18	6B95-2089	7.66	3.26	5.92	1.45	3.77	5.06 4.52
19	2B96-5057	7.63	3.35	6.32	1.48	4.24	4.78 4.63
20	2B97-4077	7.51	3.67	6.95	1.56	4.93	5.42 5.01
21	2B97-4299	7.29	3.69	6.74	1.46	4.84	5.56 4.93
22	CDC Bold	7.06	3.57	5.07	1.43	4.17	5.18 4.41
23	CDC Helgason	7.84	2.92	6.29	1.60	4.69	5.06 4.73
24	MT960099	6.72	3.55	6.57	1.52	4.56	5.19 4.68
25	MT960228	7.62	4.01	6.39	1.63	4.89	5.40 4.99
26	MT970116	6.37	3.50	6.70	1.51	4.77	5.48 4.72
27	95SR7A	7.18	3.84	6.63	1.63	4.39	4.78 4.74
Average		7.21	3.73	6.19	1.64	4.28	5.07
LSD .05		0.026	0.016	0.001	0.009	0.016	0.009
C.V.		13.41	16.28	0.14	20.72	15.00	5.81
Planting Date		5-08-01	5/30/01	4/18/01	4/18/01	5/2/01	5/8/01
Harvest Date		8-28-01	-	8/89/01	8/14/01	-	8/8/01

Table 15. 2001 Western Regional Dryland Spring Barley, Test Weight (kg m⁻³)

	Gennesse ID	Tetonia ID	Bozeman MT	Blue Creek UT	Fargo ND	Williston ND	Average	
1	Munsing	646.7	680.1	646.7	641.9	644.1	602.9	643.7
2	Steptoe	623.5	630.6	613.2	588.7	605.4	552.6	602.3
3	Clark	676.3	647.9	673.7	589.0	644.1	632.5	643.9
4	Hector	684.0	648.6	668.6	591.9	644.1	627.3	644.1
5	91Ab3148	681.4	642.8	641.5	604.5	631.2	628.6	638.3
6	93Ab688	641.5	650.5	609.3	540.2	618.3	564.2	604.0
7	95Ab11469	687.9	663.4	662.1	573.7	644.1	647.9	646.5
8	95M4623	687.9	664.7	681.4	605.5	644.1	647.9	655.3
9	97Ab7973	668.6	657.6	651.8	585.3	618.3	628.6	635.0
10	98Ab11993	672.4	638.3	622.2	567.0	644.1	614.5	626.4
11	UT95B1216-4087	663.4	666.0	638.9	551.6	631.2	600.3	625.2
12	UT5828	635.1	624.1	624.8	561.6	605.4	577.1	604.7
13	UT4938	651.8	646.7	647.9	573.9	618.3	590.0	621.4
14	UT4988	650.5	639.6	651.8	552.5	605.4	588.7	614.8
15	UT4990	645.4	657.6	654.4	564.9	618.3	584.8	620.9
16	Legacy	667.3	646.7	650.5	590.8	605.4	593.8	625.8
17	6B95-2482	671.1	647.9	662.1	593.2	631.2	611.9	636.2
18	6B95-2089	666.0	653.1	667.3	639.4	631.2	609.3	644.4
19	2B96-5057	673.7	651.8	666.0	598.1	618.3	638.9	641.1
20	2B97-4077	664.7	655.0	681.4	594.1	644.1	637.6	646.2
21	2B97-4299	671.1	675.0	646.7	579.4	631.2	615.7	636.5
22	CDC Bold	655.7	678.9	626.0	563.9	631.2	597.7	625.6
23	CDC Helgason	703.3	669.2	680.1	603.4	631.2	641.5	654.8
24	MT960099	673.7	643.4	654.4	785.3	644.1	635.1	672.7
25	MT960228	686.6	651.2	662.1	607.2	644.1	632.5	647.3
26	MT970116	696.9	617.7	694.3	631.4	657.0	657.0	659.0
27	95SR7A	677.6	654.4	666.0	579.1	631.2	606.7	635.8
	Average	667.6	652.0	653.5	594.7	630.2	613.5	635.3

Table 16. 2001 Western Regional Dryland Spring Barley, Height (cm)

	Gennesse ID	Bozeman MT	Blue Creek UT	Fargo ND	Williston ND	Average
1	Munsing	71	71	51	64	60
2	Steptoe	74	80	56	77	74
3	Clark	84	78	61	65	66
4	Hector	86	80	64	72	77
5	91Ab3148	84	74	56	67	78
6	93Ab688	84	80	64	66	72
7	95Ab11469	81	79	66	69	75
8	95M4623	86	78	61	67	69
9	97Ab7973	86	69	56	63	67
10	98Ab11993	84	68	58	61	62
11	UT95B1216-4087	91	80	58	69	63
12	UT5828	86	88	66	71	71
13	UT4938	91	80	66	73	73
14	UT4988	91	83	64	72	70
15	UT4990	91	80	66	70	73
16	Legacy	94	92	64	71	80
17	6B95-2482	91	92	64	71	75
18	6B95-2089	94	86	61	69	75
19	2B96-5057	79	75	58	61	60
20	2B97-4077	86	79	61	77	75
21	2B97-4299	81	76	58	63	65
22	CDC Bold	89	85	51	63	78
23	CDC Helgason	86	75	53	61	74
24	MT960099	69	71	53	63	59
25	MT960228	79	71	61	70	69
26	MT970116	86	82	69	77	79
27	95SR7A	76	79	58	61	66
	Average	85	79	60	68	71
						72

Table 17. 2001 Western Regional Dryland Spring Barley, Heading Date (Julian)

	Gennesse ID	Tetonia ID	Bozeman MT	Fargo ND	Williston ND	Average
1	Munsing	181	186	173	180	180
2	Steptoe	182	185	172	179	179
3	Clark	188	191	176	183	183
4	Hector	188	191	176	183	184
5	91Ab3148	186	191	175	182	183
6	93Ab688	184	183	173	180	179
7	95Ab11469	186	189	175	182	182
8	95M4623	187	191	176	184	180
9	97Ab7973	186	189	177	184	183
10	98Ab11993	186	191	177	185	184
11	UT95B1216-4087	184	186	176	182	179
12	UT5828	183	185	174	180	178
13	UT4938	183	185	172	180	177
14	UT4988	183	185	172	180	179
15	UT4990	183	184	172	180	179
16	Legacy	185	186	174	180	179
17	6B95-2482	183	186	175	180	177
18	6B95-2089	183	185	173	180	177
19	2B96-5057	187	191	177	186	182
20	2B97-4077	188	190	178	183	184
21	2B97-4299	187	190	177	184	182
22	CDC Bold	186	189	177	185	180
23	CDC Helgason	187	190	177	184	182
24	MT960099	188	192	178	184	185
25	MT960228	186	188	177	184	181
26	MT970116	185	188	176	181	180
27	95SR7A	187	191	177	185	182
	Average	185	188	175	182	180
						182

Table 18. 2001 Western Regional Dryland Spring Barley, Percent Plump Barley

	Gennesse	Tetonia	Bozeman	Fargo	Williston	
	ID	ID	MT	ND	ND	Average
1	Munsing	65	95	41	81	79
2	Steptoe	80	97	67	89	90
3	Clark	84	79	69	90	91
4	Hector	81	81	55	83	86
5	91Ab3148	93	94	69	94	97
6	93Ab688	71	87	20	77	55
7	95Ab11469	91	97	72	91	97
8	95M4623	92	97	78	93	95
9	97Ab7973	88	97	73	93	93
10	98Ab11993	89	93	57	96	92
11	UT95B1216-4087	82	85	46	86	80
12	UT5828	90	92	79	93	92
13	UT4938	88	86	75	88	89
14	UT4988	87	92	81	87	88
15	UT4990	87	91	77	88	89
16	Legacy	89	91	72	90	86
17	6B95-2482	92	94	82	91	92
18	6B95-2089	88	94	73	96	86
19	2B96-5057	91	95	82	92	96
20	2B97-4077	75	90	73	88	88
21	2B97-4299	87	85	75	90	89
22	CDC Bold	75	77	50	87	82
23	CDC Helgason	90	94	58	87	88
24	MT960099	78	78	28	84	82
25	MT960228	86	92	56	91	91
26	MT970116	93	95	82	90	94
27	95SR7A	85	88	71	89	81
	Average	85	90	65	89	88
						83

Table 19. 2001 Western Regional Dryland Spring Barley, Percent Thin Barley

	Gennesse	Tetonia	Bozeman	Fargo	Williston	
	ID	ID	MT	ND	ND	Average
1	Munsing	12	1	22	4	7
2	Steptoe	7	2	11	2	3
3	Clark	5	9	10	2	3
4	Hector	6	7	15	4	5
5	91Ab3148	2	2	10	2	1
6	93Ab688	8	3	31	3	19
7	95Ab11469	3	1	8	3	1
8	95M4623	3	1	7	2	2
9	97Ab7973	4	1	9	1	2
10	98Ab11993	4	2	14	1	3
11	UT95B1216-4087	6	5	19	2	7
12	UT5828	2	2	5	1	2
13	UT4938	3	3	6	2	3
14	UT4988	4	2	1	2	3
15	UT4990	4	3	5	2	3
16	Legacy	3	2	7	1	4
17	6B95-2482	2	1	3	1	2
18	6B95-2089	3	1	5	1	3
19	2B96-5057	3	2	5	1	1
20	2B97-4077	10	4	7	2	4
21	2B97-4299	4	6	7	2	3
22	CDC Bold	10	8	16	2	6
23	CDC Helgason	4	2	11	2	4
24	MT960099	8	8	27	4	6
25	MT960228	5	2	15	2	3
26	MT970116	2	2	5	2	2
27	95SR7A	6	6	10	2	8
Average		5	3	11	2	4
						5

Table 20. 2001 Western Regional Dryland Spring Barley, Lodging

	Gennesse ID (1-9)	Bozeman MT (0-9)	Fargo ND (1-5)	Williston ND (%)
as reported				
1 Munsing	8	7	4.7	97
2 Steptoe	2	1	3.7	50
3 Clark	5	1	3.7	18
4 Hector	6	1	4.0	65
5 91Ab3148	4	2	2.0	18
6 93Ab688	2	2	4.0	18
7 95Ab11469	3	0	3.3	5
8 95M4623	5	0	3.3	55
9 97Ab7973	5	0	3.7	13
10 98Ab11993	5	1	3.7	65
11 UT95B1216-4087	5	1	3.3	50
12 UT5828	4	1	3.7	23
13 UT4938	4	1	3.3	33
14 UT4988	4	1	4.0	40
15 UT4990	4	2	3.7	28
16 Legacy (6B93-2978)	4	2	4.0	58
17 6B95-2482	2	1	4.0	4
18 6B95-2089	4	1	4.0	33
19 2B96-5057	1	0	3.7	0
20 2B97-4077	5	0	4.0	0
21 2B97-4299	3	0	3.3	20
22 CDC Bold	5	1	3.0	65
23 CDC Helgason (TR346)	4	0	3.0	43
24 MT960099	3	0	2.7	40
25 MT960228	5	0	3.3	45
26 MT970116	2	0	4.0	13
27 95SR7A	4	0	3.0	30
Average	4	1	4	34